

Congress of the United States
House of Representatives
Washington, DC

March 19, 2018

The Honorable Kay Granger
Chairwoman
Subcommittee on Defense
House Committee on Appropriations
Washington, D.C. 20515

The Honorable Peter Visclosky
Ranking Member
Subcommittee on Defense
House Committee on Appropriations
Washington, D.C. 20515

Dear Chairwoman Granger and Ranking Member Visclosky,

I respectfully request additional funding for the U.S. Air Force's Research, Development Test and Evaluation Budget. Specifically, I request that an additional \$10,000,000 be added to the Dominant Information Sciences and Methods PE line (0602788F) to enhance current research and development into small Unmanned Aerial Systems (sUAS) by enabling a Cyber Resilient Command and Control (C2) Environment. This site will support and enhance the research and development of technologies for autonomous vehicle swarms, resilient swarm communications, which need to survive and operate in contested environments. Small Unmanned Aerial Systems are becoming an essential tool of warfare. Increasing funding for research and testing on resilience, communications, and operations is of critical importance.

UAS have had a significant impact on the asymmetric capabilities of the Air Force and Department of Defense, in general. Over the past 10 years, the number of systems in the hands of the warfighter has grown exponentially because of their agility and utility. UAS can be deployed from a distance reducing the risk to our warfighters. It is essential that there are capabilities to ensure the security and safety of the platform and its payload throughout its mission.

AFRL/RI is advancing revolutionary, game-changing technologies to make and keep the fight unfair. To this end, the Air Force tapped AFRL/RI to be the lead organization for developing cyber-resilient systems for contested environments. The systems are a collective set of autonomous entities that may be in motion or at rest. AFRL/RI technology research and development in multi-agent systems, distributed machine learning, dynamic and resilient communications, cooperative/non-cooperative game theory are in support of self-orchestrating systems such as sUAS swarms.

I request that an additional \$10,000,000 be provided for the U.S. Air Force's Research, Development Test and Evaluation Budget (LN 12, PE 0602788F Dominant Information Sciences and Methods) to undertake this mission. These funds will enable the Cyber Resilient Command and Control Environment for sUAS Research and Development Environment to support the

research and development of certified and robust sUAS technology, UAV traffic management system and infuse autonomous and cyber resilient C2 capabilities into the emerging drone industry through collaborative efforts.

The proposed controlled environment supports the development and safe experimentation of autonomous air vehicles to prevent fly away and to ensure accurate measures of performance and effectiveness. New algorithms and their autonomous characteristics developed in the laboratory must be verified and validated in a controlled and enclosed environment before being tested in the "wild."

The sUAS Cyber Resilient Command and Control Environment will enable an indoor-instrumented sUAV experimentation environment that will support the development of technologies for autonomous swarms, resilient swarm communications, which need to survive and operate in contested environments.

Thank you in advance for considering this request. As the parent of an active duty Marine officer, I maintain a deep appreciation for all that you do to provide for our military. Please do not hesitate to call on me if I can provide any additional information regarding this request.

Sincerely,

A handwritten signature in blue ink that reads "Claudia Tenney". The signature is fluid and cursive, with the first name "Claudia" and last name "Tenney" clearly legible.

Claudia Tenney

Member of Congress